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REMARKS**Status of the Claims**

Claims 1-28 are pending in this application. Claims 29-31 have been canceled. No claims have been added. The claims have been amended to place the claims in better form for U.S. patent practice.

Rejections under 35 USC §101 and §112, second paragraph

The Examiner rejects claims 29-31 as improper use claims. Applicants cancel claims 29-31. Thus, the rejections are moot and should be withdrawn.

Rejection under 35 USC 102(b)

The Examiner rejects claims 1, 2, 4-6, 10-14, 16-19, 21, 22, 24-26 and 28 as anticipated by Miya et al. USP 5,100,849 (Miya '849). Applicants traverse the rejection and respectfully request the withdrawal thereof.

The Examiner states that Miya '849 discloses that MgCl_2 reacts with an alcohol, TiCl_4 and an electron donating phthalate compound. The Examiner cites column 3, line 9 to column 4, line 49, Examples 1-5 and Comparative Examples 1-4. Miya '849 merely discloses a reaction between MgCl_2 , ROH, TiCl_4 and $\text{Ph}(\text{COOBu})_2$, where the latter two components are added together. Miya '849 fails to disclose any analytical data of the resulting product of the reaction.

On the other hand, the present invention is directed to a complex containing formula (I) as recited in claim 1. The complex is obtained by either treating a $\text{MgCl}_2 \cdot n\text{ROH}$ complex with $\text{R}''_2\text{Mg}$ and $\text{Ph}(\text{COCl})_2$ or alternatively, only with $\text{Ph}(\text{COCl})_2$, or by treating $\text{Mg}(\text{OR}'')_2$ with $\text{Ph}(\text{COCl})_2$. The complex of the present invention has been isolated and its chemical composition and structure are disclosed in the specification at page 25, line 29 to page 27, line 26.

The present invention is also directed to a process for making the complex. In the process, an alkoxy containing magnesium compound (a), e.g. $\text{MgCl}_2 \cdot n\text{ROH}$, is reacted with a halogen compound (b), e.g. $\text{Ph}(\text{COCl})_2$, which is capable of forming the electron donor of formula (I). However, Miya '849 discloses a reaction between MgCl_2 , ROH , TiCl_4 and $\text{Ph}(\text{COOBu})_2$, where the latter two components are added together.

Since Miya '849 fails to disclose each and every limitation of the present invention, Applicants submit that the anticipation rejection should be withdrawn.

Rejection under 35 USC 103(a)

The Examiner rejects claims 1-29 as obvious over Kioka et al. USP 6,235,854 (Kioka '854). Applicants traverse the rejection and respectfully request the withdrawal thereof.

The Examiner states that Kioka '854 discloses a process and a complex comprising MgCl_2 and $\text{Mg}(\text{OR})_2$ having temperature ranges to allow for contact with polybasic carboxylic acid ester between 70°C to 200°C and mole parts of 0.01 to 5 for the magnesium and titanium compound where the electron donating group is 1:1 with the magnesium compound. The Examiner further states that the only difference between the present invention and Kioka '854 is that Kioka '854 fails to disclose o-phenylene as the electron donor.

Applicants respectfully disagree with the Examiner's characterization of Kioka '854 as compared to the present invention. The present invention is directed to an isolated and identified chemical complex having formula (I), which consists of a specific ratio of magnesium halide and an alkoxy containing electron donor.

However, Kioka '854 discloses a process where the magnesium compound is connected with a titanium compound and a polybasic ester. Kioka '854 fails to disclose or suggest a compound of formula (I). Moreover, contrary to the Examiner's position, Kioka '854 not only uses a different electron donor, but Kioka '854 also uses a completely different reagent, namely an acid halide. Ester donors do not possess the ability to produce the claimed complex. It is the presence of the titanium and the lack of a halogenous donor precursor that prevents the complex from forming. The product formed in Kioka '854 is a magnesium-titanium containing

compound covered by a polybasic ester. As such, Kioka '854 could not produce the complex of the present invention from the disclosure and there is no motivation to make the necessary modifications to Kioka '854 to arrive at the present invention.

For the foregoing reasons, Applicants submit that no prima facie case of obviousness has been established as Kioka '854 fails to disclose or suggest all the limitations of the present invention. Moreover, there is no suggestive teaching within Kioka '854 or within the field of art in general that would persuade one of ordinary skill to make the necessary substitutions and modifications to arrive at the present invention. As such, the obviousness rejection should be withdrawn.

Double Patenting Rejection

The Examiner rejects claims 1-28 under the judicially created doctrine of obviousness type double patenting. The Examiner states that claims 1-28 are not patentably distinct from claims 1-44 of USP 6,420,499. Applicants traverse the rejection and file a terminal disclaimer over USP 6,420,499 to disclaim the terminal portion of any patent that may grant from this application so that it expires at the same time as the '499 patent. As such, Applicants respectfully request the withdrawal of the rejection.

Information Disclosure Statement

Applicants submitted an IDS with a Form PTO 1449 on June 23, 2000. Applicants respectfully request that the Examiner consider all references cited on the PTO-1449, initial all references and return an initialed copy to Applicants' Representative at the address of the undersigned.

Conclusion

As Applicants have addressed and overcome all rejections in the Office Action, Applicants respectfully request that the rejections be withdrawn and that the claims be allowed.


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Kecia Reynolds (Reg. No. 47,021) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.


Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version with Markings to Show Changes Made
Terminal Disclaimer over U.S. Patent 6,420,499

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 29-32 have been canceled.

The claims have been amended as follows:

Claim 1. (Amended) A complex comprising a magnesium dihalide and an electron donor[, characterized in that it is a complex of the magnesium dihalide and the electron donor and has] represented by the following formula (I) expressing the molar ratio between the magnesium dihalide and the electron donor:



wherein MgX_2 is the magnesium dihalide and $\text{R}(\text{OR}')_n$ is the electron donor, X is a halogen, R is an n-valent $\text{C}_1\text{-C}_{20}$ aliphatic group, an n-valent $\text{C}_7\text{-C}_{27}$ araliphatic group or an n-valent $\text{C}_2\text{-C}_{22}$ acyclic group, R^1 is a $\text{C}_1\text{-C}_{20}$ alkyl group or a $\text{C}_7\text{-C}_{27}$ aralkyl group, n is a number from 1 to 6 and m is defined as a number $0.5 \leq m \leq 2.0$.

Claim 2. (Amended) The complex according to claim 1, [characterized in that] wherein X is selected from the group consisting of Cl, Br and I[, and is preferably Cl].

Claim 3. (Twice Amended) The complex according to claim 1, [characterized in that] wherein R is an n-valent $\text{C}_2\text{-C}_{22}$ acyclic

group[, preferably an n-valent aromatic C₇-C₂₂ acyclic group, most preferably phthaloyl].

Claim 4. (Twice Amended) The complex according to claim 1, [characterized in that] wherein R' is a C₆-C₁₆ alkyl group[, preferably a C₆-C₁₂ alkyl group like undecyl or 2-ethyl-1-hexyl].

Claim 5. (Twice Amended) The complex according to claim 1, [characterized in that] wherein n is 1 to 4[, preferably about 2.0].

Claim 6. (Twice Amended) The complex according to claim 1, [characterized in that] wherein m is 0.67 to 1.0

Claim 7. (Twice Amended) The complex according to claim 1, [characterized in that it is] wherein Formula I is replaced with a magnesium dichloride phthalic acid ester complex having the formula (II):



wherein R' is the same as [above] in claim 1.

Claim 8. (Twice Amended) The complex according to claim 1, [characterized in that it is] wherein formula I is replaced with a

magnesium dichloride phthalic acid ester complex having the formula (III):



wherein R' is the same as [above] in claim 1.

Claim 9. (Twice Amended) The complex according to claim 1, [characterized in that it] wherein the complex has an X-ray diffraction pattern [showing] having a dominant peak at $4.5^\circ 2\theta$.

Claim 10. (Twice Amended) A [Process] process for the preparation of a complex according to claim 1 [comprising a magnesium dihalide and an electron donor, characterized by], comprising reacting a magnesium compound (a) containing an alkoxy moiety, which magnesium compound is selected from the group consisting of a complex of a magnesium dihalide and a magnesium dialkoxide, a complex of a magnesium dihalide and an alcohol, and a non-complex magnesium dialkoxide, with a halogen compound (b), which is capable of forming the electron donor by replacement of its halogen by said alkoxy moiety.

Claim 11. (Amended) The [Process] process according to claim 10, [characterized in that] wherein said halogen compound (b) [has] is represented by the formula (IV):



wherein R is an n-valent C₁-C₂₀ aliphatic group, an n-valent C₇-C₂₇ araliphatic group or an n-valent C₂-C₂₂ acyclic group, X is a halogen and n is 1 to 6.

Claim 12. (Amended) The [complex] process according to claim 11, [characterized in that] wherein R is an n-valent C₂-C₂₂ acyclic group[, preferably an n-valent aromatic C₇-C₂₂ acyclic group, most preferably phthaloyl].

Claim 13. (Twice Amended) The [Process] process according to claim 11, [characterized in that] wherein X is selected from the group consisting of Cl, Br and I[, and is preferably Cl].

Claim 14. (Twice Amended) The [Process] process according to claim 11, [characterized in that] wherein n is 1 to 4[, preferably about 2].

Claim 15. (Twice Amended) The [Process] process according to claim 11, [characterized in that] wherein said halogen compound is an organic acid halide[, preferably phthalic acid dichloride Ph(COCl)₂, wherein Ph is o-phenylene].

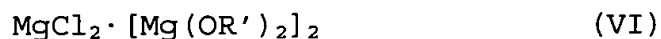
Claim 16. (Twice Amended) The [Process] process according to claim 10, [characterized in that] wherein said complex of a

magnesium dihalide and [a] said magnesium dialkoxide [is] are each a magnesium dichloride-magnesium dialkoxide complex of the formula (V):



wherein R' is a C₁-C₂₀ alkyl group or a C₇-C₂₇ aralkyl group[, preferably a C₆-C₁₆ alkyl group], and p is 1 to 6[, preferably about 2].

Claim 17. (Amended) The [Process] process according to claim 16, [characterized in that said complex of a magnesium dihalide and a magnesium dialkoxide is a magnesium dichloride-dimagnesium dialkoxide complex of the] wherein formula (V) is replaced with formula (VI):



wherein R' is a C₁-C₂₀ alkyl group or a C₇-C₂₇ aralkyl group[, preferably a C₆-C₁₆ alkyl group].

Claim 18. (Amended) The [Process] process according to claim 16, [characterized in that] wherein said magnesium dichloride magnesium dialkoxide complex is prepared by reacting magnesium dichloride with [and] an alcohol into an intermediate which is a magnesium dichloride alcohol complex $\text{MgCl}_2 \cdot (\text{R}'\text{OH})_{2p}$, wherein R' is the same as [above] in claim 16, and reacting the magnesium

dichloride alcohol complex with p mol of a magnesium dialkyl MgR''_2 , wherein R'' is a hydrocarbyl group having 1 to 20 carbon atoms.

Claim 19. (Amended) The [Process] process according to claim 18, [characterized in that] wherein independently, the molar ratio $\text{MgCl}_2:\text{R}'\text{OH}$ is between 1:1 and 1:8[, preferably between 1:2 and 1:5], the molar ratio $\text{MgCl}_2\cdot(\text{R}'\text{OH})_{2p}:\text{MgR}''_2$ is between 1:1 and 1:4, [preferably about 1:2,] the temperature is between 80 °C and 160 °C, and the reaction time is about 2 h to about 8 h.

Claim 20. (Twice Amended) The [Process] process according to claim 15, [characterized in that] wherein said magnesium compound (a) [which is said magnesium dichloride-dimagnesium dialkoxide complex $\text{MgCl}_2\cdot[\text{Mg}(\text{OR}')_2]_2$, wherein R' is a $\text{C}_6\text{-C}_{16}$ alkyl group,] is reacted with said halogen compound (b) [which is said], wherein compound (b) is phthalic acid dichloride $\text{Ph}(\text{COCl})_2$, wherein Ph is o-phenylene, and compound (a) is magnesium dichloride-dimagnesium dialkoxide complex $\text{MgCl}_2\cdot[\text{Mg}(\text{OR}')_2]_2$, wherein R' is a $\text{C}_6\text{-C}_{16}$ alkyl group.

Claim 21. (Twice Amended) The [Process] process according to claim 10, [characterized in that] wherein said non-complex magnesium dialkoxide has the formula (VII):



wherein R' is a C₁-C₂₀ alkyl group or a C₇-C₂₇ aralkyl group[, preferably a C₆-C₁₆ alkyl group].

Claim 22. (Amended) The [Process] process according to claim 21, [characterized in that] wherein said non-complex magnesium dialkoxide is prepared by reacting a magnesium dialkyl[, preferably a magnesium dialkyl of] represented by the formula MgR''₂, wherein R'' is a hydrocarbyl group having 1 to 20 carbon atoms, [and] with an alcohol[, preferably an alcohol of] represented by the formula R'OH wherein R' is the same as [above] as in claim 21.

Claim 23. (Twice Amended) The [Process] process according to claim 15, [characterized in that] wherein said magnesium compound (a) which is [said] a non-complex magnesium dialkoxide [has] represented by the formula Mg(OR')₂, wherein R' is a C₁-C₂₀ alkyl or a C₇-C₂₇ aralkyl[, preferably a C₆-C₁₆ alkyl,] is reacted with said halogen compound (b) which is [said] a phthalic acid dichloride Ph(COCl)₂, wherein Ph is o-phenylene.

Claim 24. (Twice Amended) The [Process] process according to claim 10, [characterized in that] wherein said complex of a magnesium dihalide and a magnesium dialkoxide is a complex of a magnesium dichloride and an alcohol having the formula (VIII):



wherein R' is a C₁-C₂₀ alkyl or a C₇-C₂₇ aralkyl group, [preferably a C₆-C₁₆ alkyl group,] and q is from 1 to 6.

Claim 25. (Amended) The [Process] process according to claim 24, [characterized in that] wherein said complex of a magnesium dihalide and an alcohol is prepared by reacting magnesium dichloride MgCl₂ and an alcohol R'OH, wherein R' is the same as [above] as in claim 24.

Claim 26. (Twice Amended) The [Process] process according to claim 24, [characterized in that] wherein the reaction temperature is kept between 10 °C and 100 °C, and the reaction time is about from 10 to about 90 min.

Claim 27. (Twice Amended) The [Process] process according to claim 15, [characterized in that] wherein said magnesium compound (a), which is said complex of a magnesium dihalide and an alcohol having the formula MgCl₂·(R'OH)_q, wherein R' is a C₁-C₂₀ alkyl or a C₇-C₂₇ aralkyl[, preferably a C₆-C₁₆ alkyl,] and q is from 1 to 6, is reacted with said halogen compound (b) which is said phthalic acid dichloride Ph(COCl)₂, wherein Ph is o-phenylene.

Claim 28. (Twice Amended) The [Process] process according to claim 10, [characterized in that] wherein said magnesium compound (a) and said halogen compound (b) are reacted [essentially] stoichiometrically.